Neurotransmitter

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Neurotransmitters: Key PointAcetylcholine (ACh)
- **Function**: Muscle activation, memory, learning.
- **Location**: CNS, PNS.
- **Disorders**: Alzheimer's disease (deficiency), Myasthenia Gravais

Dopamine (DA)
- **Function**: Pleasure, reward, motor control, compulsion.
- **Location**: CNS (substantia nigra, ventral tegmental area).
- **Disorders**: Parkinson's disease (deficiency), Schizophrenia (excess), Bipolar disorder.

Serotonin (5-HT)
- **Function**: Mood regulation, appetite, sleep, digestion.
- **Location**: CNS (brainstem, primarily the raphe nuclei).
- **Disorders**: Depression (deficiency), Anxiety disorders, OCD.

Norepinephrine (NE)
- **Function**: Alertness, arousal, fight-or-flight response.
- **Location**: CNS (locus coeruleus), PNS.
- **Disorders**: Depression (deficiency), Anxiety disorders (excess).

GABA (Gamma-Aminobutyric Acid)
- **Function**: Inhibitory neurotransmission, calming effect.
- **Location**: CNS (throughout the brain).
- **Disorders**: Anxiety (deficiency), Epilepsy, Insomnia.

Glutamate
- **Function**: Excitatory neurotransmission, learning, memory.
- **Location**: CNS (throughout the brain).
- **Disorders**: Cognitive impairment, Schizophrenia (deficiency/excess), Alzheimer's disease (excess).

Glycine
- **Function**: Inhibitory neurotransmission in the spinal cord and brainstem.
- **Location**: CNS (spinal cord, brainstem).
- **Disorders**: Hyperekplexia (deficiency).

Endorphins
- **Function**: Pain relief, euphoria.
- **Location**: CNS (pituitary gland, hypothalamus).
- **Disorders**: Chronic pain (deficiency), depression.

Histamine
- **Function**: Wakefulness, gastric acid secretion, immune response.
- **Location**: CNS (hypothalamus), PNS.

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- **Disorders**: Sleep disorders (deficiency), Allergies (excess).

These pointers provide a quick reference to the primary functions, locations, and related disorders of key neurotransmitters.

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